

## ABSTRACT

To provide an optical waveguide and an optical transmitting and receiving module able to perform a transmitting operation and a receiving operation simultaneously, wherein a linearly first waveguide 21 that one side is coupled to an optical fiber 3 and the other side is coupled to a light receiving element 4, and a second waveguide 22 that one side is coupled so as to make an acute angle  $\theta$  with the side of the first waveguide 21 to be coupled to the light receiving element 4 and the other is coupled to a light emitting element 5 are provided. By controlling a shape of the second waveguide 22, the receiving signal light from the optical fiber 3 is received to the light receiving element 4, and is not guided to the second waveguide 22. Therefore, the receiving operation and the transmitting operation can be preformed at the same time. Namely, when the transmitting optical signal is the incident of light from the light emitting element 5 to the second waveguide 22, the optical signal is guided by the second waveguide 22 toward the first waveguide 21, coupled to the first waveguide 21, and guided toward the optical fiber 3.